the details of recent observations. We know not where else they will find so good a summary of the best medical knowledge of the present day; exhibiting in general, able and correct views of the most important results of recent investigations in all the varieties of disease to which man is subject.

We have spoken of this work chiefly as we find it in the volume before us. We have purposely avoided any question that might arise between the author and the editors in regard to the liberties they have taken with his production. It is sufficiently apparent from what we have said that our highest estimate of value is attached to those parts which are original in this edition. There may possibly be some partial judgment in this opinion arising from our personal knowledge of the ability of the editors for such a work. But we believe it to arise much more from the evidence they have furnished of their ability in the work itself. Having no peculiar hypotheses to support, and no new discoveries of their own to vaunt, they were free from some of the temptations which beset the author. Being practical men, and men of practice withal, their good judgment has enabled them to overrule some of his extravagancies and correct some of his errors. We think they would have made a still better book, if they had done this more freely; but we doubt not they were restrained by a consideration of the respect due from an editor to his author.

The mechanical execution of the work is not very elegant. As a work for students, those who have had experience of the treatment which books ordinarily receive at their hands, will not regard this as a matter of much consequence. But for the table or shelves of the physician's library a better style of printing is truly desirable. The Boston press has furnished us with some very good specimens of medical printing. The translations of Louis on typhoid fever and on phthisis, Warren on tumours, and still more the recent translation of Louis on yellow fever are issued in a style highly creditable to the taste and liberality of their publishers.

It is even said, indeed, that these publications have not been met by a corresponding liberality on the part of physicians, and that cheapness is a much more sure guaranty for the sale of a work, than excellence. If it be so to the full extent, the publishers of course are not to be blamed for conforming to the miserable taste of their patrons. But we blush for the profession, if their niggardliness is such as to be a just apology for all the diminutive type, coarse paper, scanty margin, and sheep-skin covers in which our medical books are generally supplied.

E. H.

ART. XIII.—*A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans-Trouvés: with a Dissertation on the Viability of the Child.*—By C. M. BILLARD, M. D., &c., &c., with notes by DR. OLLIVIER, of Angers. Translated from the third French edition, with an appendix by JAMES STEWART, M. D. New York, George Adlard, 1839, 8vo., pp. 620.

As this work of M. Billard is generally acknowledged to be one of the most important on the subject of which it treats, of any that have hitherto been published, we believe we shall not do an unacceptable service to the profession, by giving a condensed analysis of its contents. The chief object of the work is to exhibit the peculiar character of infantile diseases, and to consider them in relation to the alterations which the organs have undergone. Each system, accordingly, is passed successively in review, and the varieties of form and appearance of every organ, are presented, with reference to its healthy, abnormal and pathological condition, and then deducing the treatment, after the symptoms and the nature of the anatomical lesions are duly considered. This opens, as it were, a new field, one which has not hitherto received the attention of any who have occupied themselves in the investigations of pathological truths. M. Billard shows very clearly, that while each texture possesses, equally with its particular species of vitality, its own peculiar diseased action, the period of life, also, exercises an important influence in the development of morbid affections.

The author has enjoyed a rare opportunity of pursuing his investigations in relation to the diseases of children, in the Hospice des Enfans Trouvés, in Paris; and the present work furnishes ample proof that these advantages have been abundantly improved.

Part first treats *of the Phenomena which are presented on examining externally the condition of the Child.*—A knowledge of these in the healthy state is deemed essential, as it enables us to appreciate the modifications they undergo in disease. On this account they become important marks of comparison.

Attitudes of the Child.—The flexed position of the limbs, and the forward curvature of the trunk, constitute the peculiar position of a newly born infant. The different periods at which an infant assumes new attitudes, vary according to the degrees of muscular strength. M. B. believes that the muscular contractions which determine the attitudes of an infant, are under the influence of the will, and thus become evidences of the activity of the sensorial power, and that the brain has commenced the exercise of the powers to which it is destined, though, at birth, they are purely automatic in their character. In a short time, however, it is able to extend its arms and hands towards the objects within its grasp, seizing such as are agreeable and avoiding those which will give it pain. To the voluntary motions of the arms succeed those of the head; which, from being tottering becomes fixed upon the neck. At the end of a month the faculty of vision is so much improved, that the infant will turn its head on the pillow, to the right hand, or to the left, when a brilliant object is brought alternately to one side or the other. At two months the infant is generally able to support its head, when it may be carried in the arms without danger of suffering from fatigue; at four months the spine is sufficiently consolidated to support the body in an erect sitting position; at the eighth or ninth month it essays to sustain itself upon the legs and to walk; so that the motions of the head, neck, trunk, and lastly of the inferior extremities, follow each other in their developments, and all the functions of the system become developed, perfected, or altered, in connection with the organisation upon which they depend.

The Colour of the Skin.—The colour of new-born infants is red, owing to the predominance of blood in the tissue of the skin. From the fifth to the eighth day after birth this hue diminishes, but in some cases continues a longer time, though less intense than at first. It gradually becomes of a violet colour, which is not always an evidence of health, as it often coexists with an œdematous swelling of the limbs. To this primitive sanguineous colour, indeed, several peculiar hues succeed. The integuments become of a beautiful rose, of a remarkably white, or of a yellow, more or less deep. The rosy and vermillion hue, accompanied by firm elastic flesh, is generally an evidence of health. About the age of two or three months, we begin to discover the shades of colour, and the prevailing hue of each infant; before that period the dark-complexioned cannot be distinguished from the fair.

Desiccation of the Umbilical Cord.—The desiccation of the umbilical cord and the time of its separation from the abdomen, differ very considerably in different individuals. Some umbilical cords are large, soft and thick, containing much gelatine; others contain but little, and are small and thin, and desiccate rapidly. About one-third are of the latter kind. Of eighty-six infants, which came under M. B.'s notice, the cords of sixteen were a little shrunk, but at the same time quite fresh. They were soft, bluish, and very flexible, and completely filled the ligature; the cut surface was quite smooth. Of these sixteen, one was of the age of five hours, six of one day, four of two days, and four of three days. But the desiccation generally begins on the first or second day, but sometimes as late as the fourth day. The period of the complete desiccation of the cord varies from the end of the first to the fifth day; on the third day it is generally completed.

M. B. believes that the desiccation of the cord is altogether a physiological phenomenon, belonging to the assemblage of vital phenomena, and entirely dependent on them. When the cord is cut the vessels immediately retract and disappear in the gelatine, which begins to dry away, while the exterior membrane retains its suppleness. The cord shrinks shorter; at the same time a general constriction takes place from the circumference to the centre, whereby the vessels become compressed, flattened and tortuous, and at last partake themselves of the desiccation. Progressing towards the navel, the desiccation at length stops at the umbilical ring, from which the cord is soon separated, either by a proper suppuration, or a spontaneous detachment analogous to that by which the stem of a cucurbitaceous fruit is separated. That part of the cord attached to the placenta does not exhibit the phenomena of desiccation, like the portion remaining with the child, but shrinks and decays like a dead substance, whilst the abdominal portion is not so affected. Here the desiccation ceases as soon as life is extinct; it either does not proceed in still-born children, or it is considerably retarded. In place of drying and separating at the end of a few days, as is observed during life, the cord undergoes, in the dead body, a perfect decomposition, differing entirely from its normal desiccation.

We have often witnessed this phenomenon in infants, brought into the dissecting room, when the cord would continue moist for many days; so that a fœtus may be injected very readily from the umbilical cord as late as the fourth or fifth day. This is an important fact in its application to legal medicine, for it will aid very materially in determining whether the child was born alive, or lived long after birth. M. B. deduces the following conclusions from a large number of observations, viz: 1. The desiccation of the umbilical cord cannot take place except during life. 2. At the period of death the desiccation is suspended, or considerably retarded.

3. If the cord be fresh, or the shrinking but just commenced, the infant may have been still-born, or have lived but a very short time. 4. If the cord has already exhibited the beginning of desiccation, or is completely dry, the infant has lived at least one day. The more recent the death of the fœtus, the greater is the dependence upon these conclusions.

Separation of the Umbilical Cord.—M. B. maintains that the separation of the cord is the result of the constriction which the indurated gelatine exercises upon the umbilical vessels at the umbilicus, and also of the continual pulling from this narrowed point of the cord, so dried and fragile; and that there is neither gangrene of the cord, as Haller thinks, nor constriction of the epidermis, as is asserted by Gardien—a constriction which so inert a pellicle could hardly exert—nor yet a contraction of the skin with inflammation of the umbilicus, as Capuron pretends, neither that it is caused by an active inflammation attended with suppuration, as maintained by others, this last condition having no existence except in peculiar circumstances.

Cicatrization of the Umbilicus.—As the cicatrization of the cord advances, the circumference of the umbilicus appears at first to gather in folds; and it often exhibits a double cutaneous ring, one within the other. The cord detaching itself in a circular manner, the umbilical circle becomes loose, forming a funnel-shaped hollow, at the bottom of which the cord may still be held by one or two vessels which soon separate. In this hollow will be found the ruptured extremities of the vessels, surrounded by cellular tissue, and maintained on a level with the aponeurotic circle, which the *linea alba* forms at this point by a continuation of the *fascia transversalis.* Upon examining the centre of the umbilicus with attention, a sort of hardened tubercle will be seen, produced by the obliterated extremities of the arteries and veins united. As the infant advances in age, this space becomes narrower, the tubercle and the umbilical centre sink inward, the edges of the cutaneous ring approach and become almost in contact, while a true cicatrix forms and solidifies on a level with the vascular tubercle, which retracts more and more in drawing to it the irregular centre of the umbilical cicatrix.

Exfoliation of the Epidermis.—Soon after birth the epidermis begins to exfoliate, sometimes in small furfuraceous scales almost invisible to the naked eye, sometimes in broad plates or pellicles resembling those which form on the surface of milk at the point of ebullition. This process is at its height from the third to the fifth day, though its duration is very variable, sometimes continuing till the thirtieth or fortieth day, and even for two months.

The cause of this epidermic exfoliation is obvious. The integuments of the infant are, for about seven months, immersed in a liquid which keeps them constantly supple and moist. The epidermis, until the period of birth, is, as it were, soaking in the waters of the amnios. When exposed to the air it becomes suddenly dried, and loses the suppleness peculiar to it during the intra-uterine existence. Hence results a cracking and scaling of the epidermis, and its final separation in the form of plates or powder. The result of M. B.'s researches on this subject is, that the cutaneous exfoliation of young infants is a natural phenomenon, and decidedly one of health.

Size and Weight of the Infant.—Professor Chaussier has stated that the embryo increases at the rate of two inches a month; whence it must follow, that at the period of birth it will be about eighteen inches in length. From a very large number of observations, M. Billard shows that from sixteen to seventeen inches is the ordinary size of newly born infants, though Chaussier gives instances where they measured twenty-seven inches. The average weight of infants born at the full period, is stated to be from five to five pounds and a half.

Of the Cry of Infants, considered in relation to Semiology.—The cry is nothing more than a sonorous inspiration and exspiration, and varies in infants as much as the tone of the voice in adults. The proper cry is sonorous and prolonged, and heard only during exspiration; the other part is produced by inspiration—the air in passing through the glottis, in order to reach the lungs, being compressed by a kind of spasmodic contraction of the vocal muscles, giving a shorter and more acute sound than the proper cry, and often less perceptible. Sometimes this interval or reprise is not heard at all, and the proper cry exists alone; or the reprise may be heard, while the cry is stifled. M. B. goes into a very minute and philosophical analysis of the cry, as an index of disease, pointing out its various modifications and deducing some practical conclusions highly important to the practitioner. For an acquaintance with these we must refer the reader to the work itself.

Expression of the Face.—Next to the cry, the expression of the face is one of the principal means by which a child manifests the sensations it experiences. In a state of quiet and health, the face of the child presents no wrinkles, the bony prominences do not appear, the cheeks are round, and there is scarcely any expression in the physiognomy; but no sooner is it under the influence of pain or of joy, than there occurs a very remarkable change in the physiognomy. The marks of pain in an infant can be perceived during the first month, by vertical and horizontal wrinkles at the root of the nose, the eye-lids approach, and a number of wrinkles appear at the external angle of the eye, or are delineated in a circular manner in the direction of the orbicularis-palpebrarum muscle. The painful sensations, indeed, act sympathetically on the organs of circulation and respiration, and the entire nervous circle described by Sir Charles Bell, experiences by irradiation a sudden excitement, whence results the assemblage of thoracic and facial contractions seen in a child while crying and suffering; excessive joy will likewise produce a commotion in the circulatory organs, but it suspends much sooner than it accelerates their movements; and it is well known that excessive joy will cause syncope quicker than excessive grief. Infants rarely smile before they are three weeks old, though they take part in the attempts made to obtain a smile. "In pain," says Cabanis, "the animal retires within himself, as if to present the smallest possible surface; in pleasure, all the organs seem to unfold, as it were, to receive it in all parts."

State of the Pulse in Children.—Most writers assert, without any exception, that the pulse in children is much more frequent than in adults; but M. B. shows that this is only true in the greatest number of cases, while in many the pulse is nearly as slow as that of some old men. Thus in forty children, aged from one to ten days, apparently in good health, there were eighteen where the pulse beat less than 80; in two it beat 86; in one 89; in four 100; in ten from 110 to 125; in one 130; in two 145; in two 150; in one 180. Thus there were as many children in whom the pulse exhibited about the same number of beats as is usually observed in an adult, as there were of those in whom it beat with much greater rapidity. The pulse increases in frequency in proportion as the child advances in age. It is often irregular in the young infant, jerking, small thread-like and easily compressed, and not always isochronous with the beats of the heart. The pulsations also are often so indistinct as to render it impossible to count them. The First Part of the work ends with a chapter on *Feebleness of Birth*, which contains many judicious and important observations.

The Second Part treats of the *Diseases of Infants;* which are classified under Affections of the Skin, Cellular Tissue, Digestive, Respiratory, Circulatory, Cerebro-spinal Apparatuses, Locomotive System and that of Generation.

DISEASES OF THE SKIN.—*Malformations and Congenital Diseases.*—The embryo has no distinct skin till the middle of the second month, at which period the epidermis begins to show itself. Until about four months and a half the skin is thin, colourless and transparent; it then assumes a rosy hue until about the eighth month, when it becomes paler, except in the folds. The sebaceous follicles appear about the middle of pregnancy, first in the head and afterwards in the other parts of the body; at seven months the caseous envelope appears, and at birth the skin is covered with it, and is of a rosy white. The affections noticed by M. B. under this head, are *Absence of the Skin; Cutaneous Excrescences; Alterations of Colour; Spots, or Nævi Materni.* The second section of the chapter treats of *Diseases of the Skin not inflammatory, developed during Birth, or occurring subsequently to this period;* among which are *Ecchymoses, Tumours of the Scalp, Contusions and Petechiæ.* The other sections treat of *Congenital Inflammations of the Skin; Inflammations developed after Birth.* In treating of the other cutaneous affections, M. B. follows, in general, the classification of Willan and Bateman, modified by the more recent work of MM. Biett and Rayer. With Rayer, he denominates inflammation of the skin all diseases characterized, at their commencement, by an accumulation of blood in one part, or in the whole of the surface of this membrane; an alteration followed by a complete resolution, desquamation, morbid secretion, ulceration, induration, or other changes in the organization of the part affected.

The *syphilitic* affections in young children may be known by the eruption following other venereal symptoms; by their resisting the usual treatment of simple cutaneous diseases; by their constant tendency to spread and ulcerate; by their exhibiting a cupreous appearance, particularly on the use of mercury, sudorifics and other remedies used for the treatment of syphilis; and finally, by their manifestation under circumstances proper for the development of the venereal disease. It should be recollected that the exanthemata, pustulæ, papulæ and tubercula are the cutaneous diseases which most often assume a venereal character, and that of all the symptoms produced by mercury, cutaneous affections are the most frequent, rendering the diagnosis both obscure and difficult.

Erysipelas.—This disease attacks children oftener than any of the other phlegmasiæ, owing to the sanguineous congestion of the skin and its consequent irritability. Of thirty cases of erysipelas recorded by M. B., sixteen were simple, three œdematous, six phlyctenoid, four phlegmonous, and one of the miliary form. In two the face was affected, in sixteen the trunk, in twelve the limbs. The ages varied from one day to a year, and eighteen were below the age of six months. On dissection, gastro-enteritis was found in two, enteritis in ten, pneumonia complicated with enteritis and cerebral congestion in three, and in one pleuro-pneumonia. This disease terminates either by resolution, epidemic desquamation, or by suppuration of the subcutaneous cellular tissue. It is less often accompanied by gastric symptoms than when it occurs in adults, but is usually attended with symptoms of enteritis. It almost always produces an acceleration of pulse, heat and dryness of skin, together with pain and wakefulness. Its duration is from six to twelve days. It varies from that of a simple erythematic redness to that of considerable tumefaction, hard to the touch, of an intense redness, and sometimes of a violet colour.

The *treatment* varies according to the complications. Emollient applications should be made to the inflamed integuments, particularly when the erysipelas has a tendency to terminate in suppuration, and also to prevent the formation of sinuses under the skin, which follow suppuration of the cellular tissue. The enteritic or pneumonic symptoms which supervene, should be met by the administration of mucilaginous drinks, with but little nourishment. The external causes of irritation should be removed; and if the affection be simple, there will be no occasion for any other than topical applications, an attention to diet, drinks, &c.; a severer form is to be met, in addition, by local bleeding and internal remedies.

We observe nothing particularly new under the head of Rubeola and Scarlatina, except the translator's observations on these diseases in the Appendix; which are characterized by great judgment and discrimination, and eminently worthy of the most attentive perusal.

We are obliged to pass by the other cutaneous affections treated of by our author, which occupy nearly ninety pages of the volume, that we may devote the remainder of our article to those diseases which are of most frequent occurrence in this country.

Diseases of the Digestive Apparatus.—In treating of this class of diseases, M. B. adopts the division of the alimentary canal, who considers it as consisting of the cephalic, thoracic and abdominal or subdiaphragmatic portions. After considering congenital malformations, such as *absence of the mouth*, *obliteration of the mouth*, *hare-lip*, &c., he proceeds to treat of the inflammatory affections of the mouth, or the various kinds of *stomatitis*, viz. *erythematic*, *muguet*, (with altered secretion,) *aphthæ*, (follicular) *ulcerous* and *gangrenous*.

Muguet.—This peculiar disease of the mouth was first noticed by MM. Breschet and Guersent, previous to whose labours it was usually confounded with aphthæ. Its peculiar characteristic is a concretion of mucus on the surface of inflamed mucous membranes, whether the membrane be an epithelium or not. This concretion may be observed in the mouth, œsophagus, stomach and small or large intestines. When in the mouth, it appears either under the form of very small white points, dispersed upon the tongue and parietes of the mouth; or of variously sized threads; or, lastly, of a membrane entirely covering the tongue, or spread over the other parts of the buccal cavity. This excretion is preceded by an erythematic inflammation of the surface of the tongue, or of the parietes of the mouth. When the inflammation has continued one, two, or three days, there are seen at the extremity, or on the sides of the tongue, or on the internal surface of the lip, small white points which appear to crown the papillæ of the membrane to which they adhere; indeed, it is a morbid concretion of mucus. When the inflammation makes no progress, these white points soon disappear; but when it persists, they unite and form small laminæ either on the surface of the tongue, lips or cheeks, which exfoliate and detach themselves, leaving an inflamed surface, which soon secretes materials for a new concretion; until, at last, the inflammation ceasing, the reproduction of morbid matter is no longer to be observed. This affection follows an accumulation of blood in the inflamed mucous membrane, and the pellicular production replaces the normal secretion of mucus. It seems to be owing to the fact, that the blood of children is rendered more plastic and rich in fibrin by the inflammatory condition, thus supplying the elements of a mucus abounding in fibrin. Feebie children, and those that are crowded together, are most subject to this affection, and it prevails with almost equal intensity during every period of the year, though it is more common in winter than summer. The disease is not contagious; nor does it occasion any general symptoms, except heat of skin and great thirst. It is sometimes complicated with other phlegmasiæ; in fifty total cases, M. B. found inflammation of the cerebro-spinal apparatus in two; of the skin in four; of the respiratory and circulatory apparatus in twelve; and of the digestive apparatus in thirty-two. In ten of the latter, the stomach was not inflamed, showing that the affection is not always attended with gastritis.

Treatment.—When the disease is simple, nothing more is necessary than to moisten the mouth of the child several times a day with a piece of lint soaked in a decoction of marsh-mallows. Sometimes a weak solution of chloride of soda is very beneficial, or a little alum. When the disease is more severe and complicated, it must be met with appropriate treatment, such as is pointed out under the history of each of these diseases.

Aphthæ.—According to M. B. aphthæ consist of an inflammation of the muciparous follicles of the mouth. These follicles are extremely numerous and invisible in their ordinary state, but when inflamed, they swell and appear on the internal surface of the lips and cheeks, on the pillars of the velum and the palatine arch, on the inferior surface and the lateral parts of the base of the tongue, under the form of small white points, sometimes exhibiting a coloured spot in their centre, slightly prominent, and often surrounded by a slight inflammatory circle. They gradually enlarge, and from their central aperture there soon issues a white matter, "which being squeezed by the epithelium," the ulceration of which soon commences, leaves the white puriform matter freely exuded over the parts. Aphthæ are apt to be confounded with muguet when they are very numerous and near each other, causing their borders to unite, and spreading the curdy matter which they secrete over considerable extent of surface. The predisposing causes are the same as those of muguet; such as bad nutrition, vitiated air, &c. It is a disease not confined to infants, as adults are affected with it, though it is most frequently met with among such as are teething.

Treatment.—When mild, wetting the mouth often with marsh-mallows decoction, barley-water, or milk and water, will prove sufficient; when more severe, M. B. recommends acidulated gargles; such as a mixture of barley-water and honey of roses, with a few drops of sulphuric acid. The ulcerated parts may sometimes be touched to advantage with a piece of alum, cautiously applied, and demulcent gargles used afterwards. Gargling with a weak solution of chloride of soda should never be neglected. When the child is restless or in pain, a little syrup of poppies should be added to the gargles, in the proportion of one or two drachms to two ounces of mucilage or gum-water.

Ulcerous Stomatitis.—This is an ulcerous affection of the mouth, differing from aphthæ, which is confined to the follicles, the ulcers occupying indifferently every part of the buccal cavity. Two cases are given, (p. 180,) to show the true nature of this disease, but as it does not differ from the very prevalent ulcerous affection of the mouth in adults, so well known, we shall merely add, that M. B.'s treatment is the same as in aphthæ.

Gangrenous Stomatitis.—This may be the termination of any of the inflammatory affections of the mouth. When aphthæ become gangrenous, their edges shrink and assume a burned, torn, and flabby aspect; thus a brown eschar often forms in the centre, which soon detaches itself, leaving a granulated surface of a vermillion colour. In place of an eschar, the centre of the ulcer sometimes gives off a creamy substance of a brown colour and gangrenous odour. The surrounding parts tumefy, assume a violet aspect, become softer and are easily depressed. In the mean time, from the mouth of the child, always half open, there flows a ropy saliva. The face becomes pale, the patient remains drowsy, and sinks without having exhibited any febrile reaction or cerebral excitation. The pulse always remains extremely feeble, and the skin pallid and insensible. To these symptoms are often added vomiting, diarrhœa, and distension of the abdomen, and sometimes hiccup and frequent eructations.

Treatment.—A wash of gum-water, slightly acidulated. Should no alteration in the aspect of the ulcer ensue, sulphuric or muriatic acid must be used. After the eschar is detached, the surface of the ulcer should be touched with nitrate of silver.

Proper Gangrene of the Mouth, is that form of the disease which does not follow any well characterised inflammation, but appears to be brought about by some particular alteration of the parietes of the mouth. In treating diseases of the skin, M. B. took occasion to point out, that in young infants, the feet, hands, and labia pudendi, were subject to indolent swellings, which frequently terminate in gangrene. The same phenomenon occurs in the mouths of children, especially such as are born feeble, or are badly nourished. We have witnessed two cases of this disease of late, both of which proved fatal. In one case, a child at the orphan asylum of this city, was observed to be drooping and feverish for a day or two, when a small, hard tumour was noticed upon the right cheek, which gradually increased, accompanied with a good deal of tumefaction of that side of the face. In a few days a dark violet spot was discovered over the hard part, which was glossy and shining, having an oily appearance, and very hot to the touch. The pulse was slow and weak, and general prostration great. The gangrene extended gradually, involving the whole cheek, and the patient died on about the twentieth day from the attack. The second case was that of a boy, about twelve years of age, sick of fever. He had taken repeated small doses of calomel, and when I first saw him, salivation was established. The room in which he lay was small, and was warmed by a close stove, and the ventilation very imperfect. About the fourteenth day from the attack, a small dark coloured spot appeared in the centre of his chin, which was puffy, swollen, and glassy. In twenty-four hours it had extended to the size of a dollar, became very offensive, and discharged a sanious matter. It continued to spread until it had destroyed nearly half the face, when death relieved the patient from his sufferings, his senses remaining perfect till the last.

The cases described by M. B. are very similar to the above, in which he notices very particularly the œdematous swelling of the cheek, the indurated spot in the centre of the engorgement, the muco-sanguinolent discharge, the eschar, and lastly, the extensive disorganization of the cheeks. This form of gangrene may be distinguished from malignant pustule, by the gangrenous inflammation commencing in the interior of the mouth, and thence spreading to the skin. M. B. conceives that this affection is owing to an indolent engorgement, the blood no longer circulating in the capillary vessels, the lymph and serum engorging and spreading through the cellular tissue, and the parts which the blood should nourish, becoming thereby disorganized from the effect of the pressure.

Treatment.—Before gangrene has commenced, and there is merely an engorgement, we should attempt to relieve this by aromatic or dry frictions; and if there should be a circumscribed, hard spot, we should use ammoniacal liniment, and the cheek is to be covered with compresses saturated with a weak solution of hydrochlorate of ammonia. If a slight erosion appears in the interior of the mouth, and on the exterior a violet ecchymosis, we should then cauterize the central part of the tumefaction, either with the water of antimony introduced to the bottom of a crucial incision made on the outside of the cheek, or what is still better, with the actual cautery: and this is to be resorted to at as early a period as possible, to prevent the destruction of the cheek. The mouth is to be washed with acidulated barley water. Emollient cataplasms are proper, to moderate the inflammation. The general treatment must be cordial and supporting.

Passing over Glossitis, diseases of first dentition, those of the salivary glands, and of the guttural portion of the digestive tube, and œsophagus, which are ably treated, we come to *Diseases of the Stomach.*

M. B. shows very conclusively that inflammation of the stomach may occur during the sojourn of the infant in the uterus, and manifested after birth by a pinched appearance of the face, painful cries, and the vomiting of brown matter. These signs, however, may be common to all other diseases of the digestive tube.

Of gastric diseases developed, our author treats of *Indigestion. Lesions of the Stomach, with or without disturbance of its functions; Gastritis,* (1, *Erythematic*, 2, *With altered secretion*, 3, *Follicular*, 4, *With disorganization of tissue.*) In the treatment of Gastritis, M. B. recommends to wean the child, give a sweetened decoction of marsh-mallows, and nourish the child by injections made with a decoction of rice or groats. If the affection is severe, leeches are to be applied to the epigastrium, and frictions over the same region with tartar emetic ointment. No stimulants or tonics must be employed.

The first disease of the *intestinal canal* treated of by M. B. is *Intestinal Indigestion.* We often see children labouring under this affection, affected with diarrhœa; they become pale, and sink into a state of marasmus, and on examination after death, no trace of inflammation is discovered. These children really perish from want of food; they die, it may be said, of hunger, the intestinal canal not digesting either the milk that is sucked, or that which is given to drink. The usual symptoms are progressive emaciation, paleness of face, continual hunger, diarrhœa, consisting of white mucous matter, containing lumps of coagulated milk, which have passed unaltered. The child dies of marasmus, and the intestinal tube is found after death, without colour, often softened, sometimes inflamed, ulcerated, and disorganized to a greater or less extent. The most usual appearance, however, is a general discoloration, which is the first degree of a species of softening. This alteration of tissue, M. B. considers one of the effects of defective nutrition, which is owing either to the nature of the food, or the mode of suckling to which the infant is subjected. He states that all the children at the Hospice des Enfans Trouvés, who are confided to the care of the wet nurses, are pale, thin, and in a bad condition, and die from imperfect nutrition, with the pathological changes above noticed.

M. B. gives an account of the interesting remarks of M. Poyen, from the *Journal de Chimie Médicale*, &c. in relation to the composition of goats' and human milk, from which it appears that the latter differs from the former in its containing about half the quantity of caseum, and its marked alkaline quality. When a child appears feeble and pale, and does not digest the milk of its nurse, he advises to attempt feeding it with the spoon or bottle, to regulate the quantity and correct the quality, by diluting it with barley water. Children will often thrive upon this who reject the milk of their nurses, and who have wasted away from want of alimentation.

Invagination of the Intestines is of frequent occurrence in sucking infants, and, though it is often met with where no symptoms have occurred during life, yet in general its existence is indicated by well known signs. It is a difficult condition to remedy, yet M. B. recommends baths, abstinence from the breast, laxative enemata, gentle compression of the abdomen, and the administration of olive oil. M. B. believes that constipation, vomitings, and convulsions in infants, if remarkable for alternate emissions and exacerbations, and not preceded or accompanied by symptoms of enteritis, are generally indicative of a nervous affection of the digestive tube, and should be treated with antispasmodics, such as syrup of poppies; but these means are to be used with great caution, as nervous affections of the intestinal canal are much more rare than inflammations in young infants.

Gastro enteritis is a disease of common occurrence in sucking infants. The symptoms are vomiting of greater or less obstinacy, pain in the epigastric region, indicated by a painful expression of the face, and by cries, when pressure is made over the abdomen. It is often difficult to distinguish this affection from simple enteritis.

Enteritis in children may be either erythematic, with altered secretion, follicular, and attended with disorganization of tissue. As these run into each other, and during life are difficult to be distinguished, we must refer to the work for cases and details illustrative of each form of the disease. In 80 cases of inflammation of the intestines examined by M. B., there were 30 of entero-colitis, 36 of enteritis, and 14 of colitis. In the 30 cases of entero-colitis, there were 20 with diarrhœa of yellow or green matters. In all, there was distension of the abdomen, which was more or less painful on pressure. In 12 of these children, there was vomiting of yellow matters, but no gastritis. In all, there was an erythematic redness about the anus, of greater or less intensity, caused by the acridity of the alvine dejections. The tongue was very often red and dry; the skin very hot and arid; the pulse barely indicated fever, but, in some cases, it was slow and feeble. In the 36 cases where the small intestines alone were affected, there were 20 instances of vomiting, either of drinks or intestinal matters; and in these 20 cases of vomiting, in all these instances, the inflammation was seated in the ileo-cœcal region, and at the valve in 15 instances; so that M. B. thinks it likely that the obstruction resulted from the tumefaction of this valve, thus producing an interruption in the course of the intestinal matters followed by vomiting. In every instance the abdomen was tumefied; in 25 cases, there was diarrhœa of yellow or green matters, like the meconium; the tongue was generally red; the skin hot; the pulse little disturbed, and a redness about the anus in all. These children were from one day to six months old. The proper signs then of enlerits or ileitis in children, M. B. considers to be rapid tympanitis of the abdomen, and diarrhœa accompanied with vomiting; while in colitis, we generally have diarrhœa alone without tympanitis. When to these we add rapid emaciation and an ashy aspect of the integuments, the nature of the disease can rarely be mistaken.

Treatment.—This must be antiphlogistic—one or two leeches to the anus at the commencement, and the use of mucilaginous and demulcent drinks; such as a sweetened decoction of marsh mallows, milk diluted with water, barley water, &c. If the diarrhœa be profuse, and the pain urgent, an enema of starch with from four to eight drops of laudanum should be administered. Opium, however, should be administered to infants with great caution, as they are more susceptible to its influence than adults .Cataplasms to the abdomen should never be omitted. Emollient baths are very useful, The hours of feeding, and the quantity of aliment, ought particularly to be regulated.

Spasms of the Intestines.—In the treatment of this affection, so apt to occur in infants, within the first six months, M. B. recommends leeches to the mastoid region or general bleeding from the arm or foot, under a conviction that it is owing to an irritation of the cerebro-spinal apparatus. Warm baths, assafœtida injections, stimulating frictions over the spinal axis, lancing the gums, if swollen from teething, gentle laxatives, soap suppositories, &c., fill up the catalogue of remedies for this affection. M. B. quotes, with approbation, from an article on this subject, in the *North Am. Med. and Surg. Jour.* for January, 1827, by Dr. Joseph Parrish of Philadelphia, and after treating of "White softening of the gastro-intestinal mucous membrane," he concludes a very elaborate chapter, by ably summing up of the principal symptoms of the diseases of the digestive canal. For his account of cholera infantum, he is chiefly indebted to our countryman Prof. Dewees, as it is an affection "not generally noticed in France." After reading the symptoms, however, of some of the forms of bowel affections above noticed, we cannot believe "that it is a disease peculiar to infants in the United States," but that it prevails extensively in Paris during the hot months, though called by a different name.

Chapter III treats of *Diseases of the Appendages of the Intestinal Canal*, commencing with those of the liver. "English physicians," remarks M. B., "attach the greatest importance to diseases of the liver in children, as they do also in adults. Most of the disorders of digestion are attributed by them to a derangement of the functions of this organ; they attribute many diseases to the qualities of the bile that the liver pours into the intestines. In order to obtain fixed data upon this subject, I have examined the liver in a number of infants with great care, and considered especially the physical qualities of the bile, and the symptoms which they had presented during life, and I have never seen any thing in these lesions and symptoms which could explain the ideas of the English pathologists in reference to the influence which affections of the liver might exercise upon the health of the child."

Congestion of the Liver is easily caused by any impediment to the circulation of the blood. It is often found in children at birth, especially in cases of asphyxia, where the liver, as well as the large abdominal vessels, will always be found gorged with fluid, black blood. The treatment is the same as that of intestinal, thoracic engorgements.

M. B. thinks that *inflammation of the liver* is a very obscure affection, owing to its numerous alterations of colour and texture, which render it very difficult to know to what cause to refer these changes. As to the alterations in the qualities of the bile of fifty children, upon whom researches were made, in twelve of these, where the liver exhibited all the apparent characters of a state of health, the bile was discoloured and slightly viscid in two; abundant, without colour, and clear like serum in three; of a beautiful green, and in small quantity, in one; black and very abundant in two; small in quantity, and of a clear yellow, in two; and of a yellowish green, and very viscid, in two; showing that, however healthy the liver may appear, the colour and consistence of the bile are extremely variable.

In twenty-eight out of these fifty cases, the liver was much gorged with blood in twenty-eight children; in ten the bile was of a deep green and of the usual quantity; in eight it was of a very pale green; in two it was mixed with blood; in three in was yellow, thick, and concrete; in four in small quantity and of an ochrey colour; in one it was replaced by a white, ropy fluid, like mucus. From these facts it would appear, that sauguineous congestion of the liver does not produce the same change in the bilious secretions, even when the liver is found in the same pathological state. The colour of the liver, as well as its texture, was as variable as the appearance of the bile. The result of M. B.'s researches is, that the appearances of the liver and the bile are very variable, and that it is impossible to establish between the state of the bile still retained in the reservoirs, and the normal and pathological state of the liver, any connection that may lead to general conclusions. Our author believes that the yellow and green discharges in infants, are symptomatic of enteritis, and not of deranged biliary secretion, as is generally supposed; and in proof of this, he states, that in forty-eight children that died of enteritis, twenty had diarrhœa of very abundant yellow fæces, and twenty-six diarrhœa equally abundant, of very green fæces. In fifteen of these cases the liver was scarcely injected, and small in quantity; in four it was very clear; in three very thick and of a deep green; in the rest it presented nothing remarkable. In twenty-five the liver was gorged with blood, the bile presenting different appearances. M. B. criticizes the opinion of Dr. Dewees and others, who consider the green and yellow evacuations in children as an evidence of altered biliary secretion, and condemns the practice of giving calomel, as generally practised in this country, without considering that, in a majority of these cases, active enteritis is present. He more than intimates that the great mortality of children by cholera infantum in this country, is owing to the practice of giving emetics, purgatives, and stimulants, without regard to the pathological condition of the gastro-intestinal mucous membrane, and that it would be more philosophical to endeavour to ascertain in the first place whether there really is a preternatural efflux of bile into the intestines in this disease. On this subject we beg to refer the reader to the able and satisfactory article of Dr. Stewart, the translator, in the Appendix. In concluding this article, the translator remarks with great justice, "The strictures of the author on the non-success of American practice and prophylactic treatment in cholera infantum are not more just than similar strictures would be if applied to any other disease that baffles the skill of all physicians; such, for instance, as phthisis in all countries, spasmodic cholera in India, America, or France. In many diseases there may be, and often is, a limited view of their nature, when studied only as they are manifested in one organ, without considering the connection it may have with others, and in some cases even the absolute dependence of one organ upon others for the continuance of its healthy functions. To the disease we have just been considering this remark applies with more than ordinary force; and the extended view of it, and the consequent treatment adopted in this country, is the result of a vast accumulation of experience, obtained where the prevalence of the disease is co-extensive with the boundaries of the land, and where its appearance is annually anticipated with the same certainty as that of the season which gives it existence. Those who have recorded this experience are men who have distinguished themselves in the fields of science, and who are unsurpassed in sagacity and in the attainment of the object of all intellectual culture when applied to medical science—a solid, philosophical judgment. It would be impossible, as it would indeed be unnecessary, to attempt to exhibit at length the professional character of some of our distinguished countrymen; but a reference to our numerous medical treatises may with confidence be made in proof of the industry, erudition, and genius displayed in the cultivation of the science of medical philosophy."

M. B. next treats of diseases of the *Urinary Organs*, which we must pass by, to come to the chapter on PERITONITIS. This affection is more common among children than is generally supposed, and even, according to M. B., may exist during the intra-uterine life. The symptoms peculiar to peritonitis in children, are, tension of the abdomen, which rises in a point towards the umbilicus; restlessness; pain, indicated by a pinched face and cries; vomiting; eructations; constipation; and, lastly, a general sinking and smallness of the pulse. It may be distinguished from pleurisy by the full sound of the thorax. Dyspnœa not only arises from an affection of the lungs, but also from a tympanitic state of the abdomen, and the laboured movement of the diaphragm. The pain is constant; whereas in spasm and colic, it is remittent. The progress of peritonitis is always unfavourable.

Treatment.—This should be antiphlogistic; one or two leeches should be applied to the abdomen, near the umbilicus, and the child placed in a warm marsh-mallows bath, and linseed poultices applied to the belly. From one to two grains of calomel should then be given, and a few spoonfuls of the syrup of succory, or an injection of castor oil. If the disease yields, the child should not be applied to the breast immediately, but nourished for some time with calves' or goats' milk, diluted with a decoction of oatmeal. The feet are to be kept warm, and the body covered with flannel next the skin.

Ascites.—This disease is generally the result of some chronic phlegmasia in children, particularly of peritonitis. Children labouring under this affection are generally pale, thin and extremely feeble, the inferior extremities œdematous, and the digestive passages usually colourless or softened. It is more commonly met with after the first year, but is sometimes observed in many young infants; in a few cases it has been observed at birth.

The chapter on *Hernias* and *Prolapsus of the Rectum* contains nothing particularly new or interesting.

M. B. considers *Coryza* in infants to require particular attention, as the irritation is very apt to extend to the brain, producing chronic hydrocephalus. When drowsiness and prostration, and particularly convulsions, occur during the presence of coryza, we should regard them as signs of cerebral irritation and adopt our treatment accordingly. The treatment varies according to the age of the child; removal from the breast M. B. considers absolutely necessary; laxative drinks, such as a decoction of prunes; small doses of calomel; a blister to the neck or one of the arms; and if cerebral complication should arise, it must be met by appropriate means. To change the nature of the morbid action, calomel and sugar, or alum and sugar, may be blown into the nostrils.

Laryngitis in infants is always accompanied with an abundant secretion of mucosity, which is at first clear, but soon becomes thick and yellow. The respiration of the child is laboured, and the cry sensibly altered. This alteration consists more in its tone than in its form; both parts constituting the cry exist, but they are husky. When inflammation of the larynx is violent, the alteration in the cry is more evident; it is often then so faint as scarcely to be heard, whilst the reprise is, on the contrary, acute and predominant. This particular modification of the cry is worthy of particular notice, as it is a positive sign that inflammation exists about the upper portion of the air passages, while the complete absence of the reprise indicates a lesion in the bronchial ramifications or the pulmonary tissue.

Laryngitis, in children, rarely exists alone; it often follows coryza, and is apt to terminate in croup or pulmonitis. Its course is usually rapid, though, at first, the symptoms may be obscure.

When the opening into the larynx is very narrow, the least tumefaction resulting from inflammation, may produce suffocation, followed by spasm and distress, during the existence of which the physiognomy fully expresses the suffering of the patient. The face becomes purple, especially round the alæ of the nose and about the mouth, the nostrils dilate, the mouth remains wide open, and at each movement of inspiration, there occurs a kind of spasmodic contraction of all parts of the body, accompanied with a dilatation of the walls of the thorax. This assemblage of symptoms constitutes what is called *Angina Suffocatoria.* This affection may terminate in resolution at the end of a few days, pass into a chronic state, or soon end fatally from asphyxia. After this disease, the cry often remains husky from the altered state of the tissue from the inflammatory action.

Treatment.—Scant nutriment, leeches, poultices to neck, hot cataplasms to the feet, calomel followed by manna, and injections, are the remedies recommended by M. B. in the treatment of this affection. Should the disease become chronic, a blister or tartar emetic ointment should be applied to the neck; and the neck should, for some time after the disappearance of the inflammation, be kept enveloped in swansdown, fine fur, or flannel.

Croup.—M. B. defines this to consist of an inflammation of the larynx and trachea, complicated with the rapid formation of a pellicular concretion, spread over the walls of the larynx, and propagated thence to the trachea and bronchiæ. He does not believe there is any thing specific in the nature of croup, but that the existence of the false membrane may be accounted for on principles already pointed out, connected with the peculiarly fibrinous character of the blood of children. He states that there exists but a degree between the thick, tenacious, filamentous mucosity, with which inflamed mucous membranes cover themselves, and the membranous exudation of croup; and that both present the same chemical elements. Thus he considers the puriform mucosity of catarrh, the false membrane of croup and the excretion of muguet, as but alterations of the same excretion, which vary only with respect to their form and the parts they occupy. Before this membrane appears, the mucous membrane is always much inflamed, red and gorged with blood; the subjacent tissue also participates in this injection, and when the inflamed membrane is at the same time the seat of sanguineous exhalation, this exhalation is seen to be accompanied or followed by pellicular concretions, from which it is to be inferred that croup is a catarrhal phlegmasia; but that the blood destined to the secretion of mucosity is, in the case under consideration, concentrated in greater abundance, or rendered plastic by inflammation, and imparts to the mucosity that portion of its composition which concretes the quickest, that is, the fibrin; whence arise the striæ, pellicles, and white patches with which the mucous membranes affected with muguet or croup are covered.

Treatment.—M. B.'s treatment of this disease does not vary materially from that usually adopted in this country, viz. general and local bleeding, calomel, topical applications, revulsives, &c. He says nothing of emetics, which we consider very important therapeutic agents in this disease.

M. B. maintains that children are sometimes born with *pneumonia* and *pleurisy*, as well as pulmonary congestion, which are often mistaken for debility, and erroneously treated. Children often perish soon after birth, from the fact that the air does not penetrate the lungs in sufficient quantity to prolong life. We have seen several such cases, where the lungs *sunk in water*. The symptoms of *pulmonary engorgement* in new born children are obscure; but in general we find the respirations laboured, the thoracic parietes not perfectly developed, the face purple, the general colour indicating sanguineous plethora in all the organs, the cry is obscure, painful and short, and percussion yields a dull sound. This affection often terminates in pulmonary apoplexy, when the symptoms are the same as above, only more aggravated. The *treatment* of these diseases should be revulsive, viz. bleeding, warm bath, &c.

Pneumonia.—This disease in infants is generally the result of a stagnation of blood in the lungs. The blood, in such cases, may be regarded as a foreign body, and concurs in producing an alteration in the pulmonary tissue, with which it combines, and is identified with it, causing hepatization of the lungs. In proof of this, we may state that pneumonia almost always follows engorgement of the lungs, and as congestion is more frequent in the right than the left lung, it is that lung which is most frequently affected. The cause may be either mechanical or physical. The disease is rarely complicated with pleurisy, as is generally the case in adults. Pneumonia may terminate either in hepatization, suppuration, softening, or disorganization.

The symptoms of pneumonia and pluro-pneumonia in children, are, laborious; short and painful respiration; suppression of the respiratory murmur on auscultation; dull sound on percussion; incomplete and smothered cry; cough may exist, or be absent; no expectoration as in adults; peculiar expression of the face, consisting in a drawing of the alæ of the nose outward, a blue circle round the lower part of the nose and commissure of the mouth, which is the result of a disturbance in the general or capillary circulation. The face is often œdematous towards the close of the disease. Febrile reaction rarely exists in very young infants, but appears in proportion as the child advances in age. The pulse is often obscure and small, the skin cold and livid, and the limbs œdematous. Marasmus ensues, if the affection becomes chronic.

Treatment.—Remove all tight clothing; apply leeches to the axillæ of the side affected, the number being proportioned to the strength of the child: and give but little nourishment. If the inflammation persist after sanguineous evacuations, recourse must be had to dry cupping on the thorax, or to blistering the chest or arms; revulsives to the extremities, or intestinal canal. If the pain be excessive, producing continual crying and restlessness, a sufficient quantity of syrup of poppies should be given to procure ease. But little benefit is derived from the use of syrup of ipecac, squills, and other expectorants usually given in this disease, as the bronchiæ do not generally participate in the inflammation, and young children cannot expectorate. In a more advanced age they may be given to advantage. While convalescent, very great care is necessary in protecting the child against cold, as there is great danger of relapse from the great sensibility of the respiratory organs. We should remember, also, that this is a period of life at which the different organs are susceptible in their progress of developement, of acquiring certain modifications which dispose them to idiosyncracies, the influence of which may remain during life.

The author's remarks on *Bronchitis, Pleurisy, and Œdema of the Lungs*, are highly interesting and important, especially the cases which he gives in illustration of the pathology and treatment.

Hooping Cough.—After presenting the result of the researches respecting hooping cough, which have been made by other writers, M. Billard proceeds to point out its causes and nature. He concludes that it is a bronchial catarrh, attended with a peculiar, suffocating, convulsive catarrh, occurring in paroxysms. This indeed gives the disease its specific character, though it must be observed that in adults, as well as children, affections of the trachea, larynx and bronchiæ, often give rise to a sudden, local, or general spasmodic irritation, characterized by spasms of the affected organ, or by general convulsions. Thus tonsillitis, simple angina, croup, foreign bodies in the trachea, or tumours pressing on the trachea, produce a cough more or less suffocating, remarkable for its remissions, and which in many cases has a striking resemblance to that of hooping cough. M. B. explains the mucous vomitings by the relation existing between the mucous membrane of the bronchiæ and that of the stomach. He has never discovered any lesion in the pneumo-gastric nerve, as maintained by Hufeland and Breschet. Autopsic examinations reveal nothing more than bronchial catarrh in its various stages, accompanied with considerable mucosity in the bronchiæ, which are sometimes sensibly dilated, and exhibit a vivid red colour. The lymphatic gangliæ in the vicinity of the bronchiæ are often found inflamed, and sometimes small vesicles are observed, filled with a creamy, inodorous pus. The disease may be complicated with pneumonia, pleurisy, pulmonary tubercles, chronic enteritis, mesenteritis, meningitis, and hydrocephalus. The symptoms are detailed at great length and much particularity, but they are too well known to need description here.

Treatment.—The indications are to combat the inflammation of the bronchiæ, and moderate or remove the nervous complication. In the beginning of the disease sanguineous evacuations are necessary, both general and local, accompanied with demulcent drinks and revulsives to the intestinal tube; in a word, it must be treated by a purely antiphlogistic method rigorously pursued during its inflammatory stage; as bronchial irritations quickly produce in young infants pulmonary or cerebral congestions, a few leeches to the neck or lateral parts of the thorax, will be proper, if the slightest symptoms of irritation are perceived in these organs. Antimony, squills, ipecac. &c., should be given rather in expectorant than emetic doses.

Mr. B. repudiates the idea that hooping-cough has a certain course to run, and that it is, therefore, useless to attempt to cut it short. In this respect he compares it to intermittent fever, and says it is equally proper to attempt to arrest the one as the other. After the inflammatory symptoms are removed, it will be proper to administer narcotic and antispasmodic remedies, such as the syrup of poppies, assafœtida, hyoscyamus, belladonna, cicuta, &c. To these may be added counter-irritants to the skin, e. g., blisters between the shoulders, ammoniated and tartar-emetic frictions, &c. During convalescence the nourishment should be gradually increased, and the patient removed to the country, if possible. In concluding his observations on diseases of the respiratory organs, M. B. strongly recommends physicians to employ the stethoscope and auscultation in investigating thoracic diseases.

The next chapter treats of diseases of the *Circulatory Apparatus,* occupying some twenty pages, which our limits oblige us very reluctantly to pass over.

The diseases of the *Cerebro-spinal Apparatus* are considered at considerable length and great ability; after taking a rapid view of the development of the brain, and spinal marrow, Mr. B. proceeds to describe their congenital diseases, such as *spina-bifida, acephalia, anencephalia,* and *hydrocephalus.*

Congestions of the cerebro-spinal apparatus are common at birth. This arises from the abundance of vessels, the slowness of the circulation, and the influence of respiration on the spinal and cerebral circulation. M. B. considers injection of the meninges, of the medulla and of the brain, so common in infants at birth, that it should rather be considered a natural than a pathological state. It often gives rise to no particular, appreciable symptoms; but, if continued too long, it will produce an exudation on the surface of the meninges, and the blood which is the product of this exhalation, is ordinarily coagulated in a greater or less quantity, compressing the brain and spinal marrow, and causing an apoplectic stupor to follow. This effusion extends to the cerebral mass, is always met with in infants who have died of apoplexy, forming what M. Serres calls *meningeal apoplexy.* Injection of the cerebral pulp is also equally common.

Non-inflammatory softening of the brain is a lesion peculiar to the brain of new-born children, and is the result of congestion of this organ. This softening may exist in one or both lobes; often the whole of the cerebral mass is so destroyed that nothing more is found on opening the cranium but a soft, flocculent, black mass, mixed with a great number of clots of blood, and pulpy flakes. The meninges are not involved in this disorganization, and, notwithstanding the destruction of the encephalon, children will live on some days, not possessing simply, as is vulgarly thought, a mere breath of life, but actually respiring, crying and sucking; this occurs when the disorganization is arrested at the medulla oblongata, which remains unaffected, and which, with the medulla spinalis, controls the phenomena of life. The symptoms of this affection, are diminished vital activity, flaccid and immovable limbs, very weak pulsations of the heart, cold extremities, and difficult deglutition. The result is certainly, and generally speedily fatal. *Treatment*, antiphlogistic.

Spinal Meningitis.—This affection is more common than inflammation of the medulla, giving rise to convulsions or spasms of the limbs, and sometimes of the face, particularly if the inflammation be situated near the base of the brain. In 30 cases of convulsions, in new-born children, M. B. found well-marked inflammation of the meninges of the spine in 20; and in these 20, there were six with inflammation of the meninges of the brain and of the spinal marrow; so that it is probable that convulsions of infants are almost always the result of an irritation or inflammation of the rachidian meninges. Cases are given to illustrate the symptoms and pathological appearances, for which we must refer our readers to the work itself.

Cerebral Meningitis.—The symptoms of arachnitis of the brain differ but little from those of inflammation of the rachidian meninges. It is much more common at the base than at the upper part of this organ; and the only alteration which is found, in children that die from this phlegmasia, often consists of nothing more than a pellicular exudation, more or less thick, applied in irregular layers on the surface of the arachnoid membrane, corresponding with the base of the cranium. These are almost always found beneath the tunica arachnoid and pia mater. One of the most immediate effects of cerebral meningitis is the effusion of serosity in the ventricles. This effusion, designated by authors under the name of hydrocephalus acutus, often takes place before the formation of pellicular concretions, and, even when the inflammation exists, still under the form of a simple injection. This effusion of serosity in the ventricles occurs very quickly in infants. The slightest cerebral or meningeal irritation will effect it, and as the hidden presence of this water in the ventricles produces, either by its contact or by the pressure and distension which it creates, a greater degree of pain and a new train of symptoms, meningitis, or encephalitis, complicated with hydrocephalus, then assumes its peculiar character.

To the restlessness and convulsions, which appear at the commencement of this disease, follows, suddenly, the greatest excitement; the child by its acute cries expresses the violence of its pain, which for a moment ceases, to be renewed with the greatest intensity. This remission in the symptoms is very remarkable; it sometimes observes a periodical return, and it is this, without doubt, that has induced some authors to describe the hydrocephalic fever as intermittent. But this remission is common to all excessively painful diseases, and especially to such as produce some lesions of the nervous system; this is a fact worthy of observation, and which deserves consideration in the history of every periodical irritation. When the effusion is considerable, the convulsions are less; the limbs, which were very remarkable for their spasmodic rigidity, become completely flexible; the face assumes a peculiar expression, arising from the permanent dilatation of the pupils, and the fixed dull stare of the child, the pulse, which was remarkable for its frequency and quickness, becomes very slow, and is scarcely perceptible. Yet the child will sometimes come out of this state of prostration, and a new state of excitement shows itself; the limbs are convulsed anew, the globe of the eye becomes the seat of spasmodic movements; but this exacerbation is of short duration, and is soon replaced by a state of coma, which usually continues until death. Children that are old enough, complain of excruciating pain in the head, as if the bones were pried apart. The secondary symptoms are vomiting, difficult respiration, angina, alteration of the tone of the cry, and obstinate constipation. When the disease becomes chronic the patient falls into a state of stupor and idiocy which continues during life.

The anatomical lesions are numerous and variable. In some cases nothing is found but a simple vascular injection of the meninges, together with more or less clear serosity in the ventricles. The effusion varies with respect to its quantity and its seat. Its seat is usually in the cerebral ventricles, or in the great arachnoid cavity; it has, however, often been found infiltrated under the pia mater, or between this membrane and the tunica arachnoidea. Its colour varies from clear to a turbid yellow; it is sometimes mixed with albuminous flakes, sometimes of a gelatinous form, between the convolutions of the brain, and is often sanguinolent at the time of birth. There are other appearances often met with, of less importance, but necessary to be described in presenting a complete history of the disease.

Treatment.—This should be prompt, and decisively antiphlogistic, viz: general and local bleeding, calomel, blisters, and the other means usually recommended; and which, in no country, are more successfully or more intelligently employed than in this.

Inflammation of the Spinal Marrow and Brain.—This is less frequent than inflammation of their membranes. Encephalitis is a very difficult disease to detect in young infants. In adults, or children sufficiently advanced, the symptoms of inflammation of the cerebral mass are made known by aberrations of the intellectual functions, whilst that of meningitis shows itself by convulsions, with or without delirium. In young infants, however, it is found that they often perish from complete disorganization of the cerebral mass, without exhibiting any symptoms of this lesion during life; while, as we have seen, inflammation of the cerebro-spinal membranes causes convulsions of the face and limbs, tetanic contractions or pains, cries and restlessness, &c.

Convulsions.—M. B. considers convulsions, as already stated, to be caused by cerebral or spinal meningitis. There are many cases of this kind where, perhaps, it may not be possible to discover marks of inflammation after death, but this arises from the difficulty of distinguishing passive congestion from phlegmasia; besides, irritation of the tissue of an organ may arise before the inflammation can manifest itself, at least to a sufficient degree to be evident to our senses. The author next treats of diseases of the organs of locomotion; of generation; of the lymphatic system; of the eyes; jaundice; of accidental tissues in infants; and of alteration of the blood; and concludes his work with an elaborate and highly original Medico-Legal Dissertation on VIABILITY, *considered with reference to the pathology of new-born children.*

We have thus given a very brief sketch and analysis of the contents of M. Billard's work, omitting the cases and autopsic examinations. The reader, however, will be able, from the specimens we have offered him, to form a tolerably correct idea of the nature of the work; filling as it most ably does a hitherto vacant niche in medical science. For minute and philosophical research, and clear but cautious reasoning, it may almost serve as a model, and what it lacks in therapeutic detail is supplied by the experienced translator in the Appendix. For correctness and neatness of style, the translation will not suffer, by comparison with the best in the English language; and the manner in which the book "is got up," is creditable to the enterprising publishers. The value of the work is also enhanced by a very able contribution to legal medicine, by the distinguished medical jurist, Professor Francis, of New York. C. A. L.

ART. XIV.—*Anatomical, Pathological and Therapeutic Researches on the Yellow Fever of Gibraltar of* 1828, by P. CH. A. LOUIS, Physician to the Hotel Dieu; President for Life of the Society for Medical Observation of Paris; Member of the Royal Academy of Medicine of Paris. Honorary Member of the Massachusetts Medical Society, &c. &c. &c. From Observations taken by himself and M. TROUSSEAU, as Members of the French Commission at Gibraltar. Translated from the manuscript by G. C. SHATTUCK, JR., M. D., Member of the Society for Medical Observation at Paris: Fellow of the Massachusetts Medical Society. Boston: Charles C. Little and James Brown, 8vo, pp. 374.

THE history of yellow fever, notwithstanding the numerous treatises on the subject, as well as the descriptions which have been published of particular epidemics, is still involved in great obscurity. It is probable, indeed, that this appellation has been bestowed on diseases entirely distinct, though resembling one another in some of their most striking features. In particular it would seem that the bilious remittent of warm climates has often been confounded with yellow fever properly so called. For, that these two disorders are quite distinct, can hardly be doubted, notwithstanding all the confusion which exists on the subject, when we consider the striking differences to be found in their general history, especially as regards the conditions which give rise to them. This confusion, as well as the discordant views which have been at various times entertained relative to the nature and distinctive characters of yellow fever, are mainly owing to the want of an accurate examination and description of the post-mortem appearances considered in connection with the symptoms, and a comparison of both of these with what is found in other diseases. The first step towards supplying this desideratum has been taken by M. Louis, who has now given to the public, an account of his researches on the yellow fever of Gibraltar of 1828. His results are founded exclusively upon his observations in this epidemic, and cannot, of course, be affirmed to be universally applicable, unless confirmed by a similar course of observations in